

Implementation of enterprise resource planning using Odoo module sales and CRM. Case study: PT Ecosains Hayati

A Terminanto¹, R Hidayat², and A N Hidayanto³

^{1,3}Faculty of Computer Science, Universitas Indonesia, Depok, Indonesia. ² Industrial Engineering Department, Faculty of Engineering, Pancasila University, Jakarta, Indonesia.

¹agung.terminanto@gmail.com, ²rianhidayat53@gmail.com, ³nizar@cs.ui.ac.id

Abstract. Marketing is the most important part of PT Ecosains Hayati as a distributor company. Sales looking for prospective buyers and provide product price quotations. Quotations are made by accessing various data in a separate document. It makes the work process less efficient. Implementation of ERP system could improve the efficiency of sales work. It used RAD method that faster than other methods. The selected ERP system is Odoo, which contains various business application programs. Gap and efficiency analysis were performed to compare business processes before and after using Odoo. User Acceptance Test (UAT) is conducted to determine user acceptance of the applications and features available in Odoo module. After implementation of Odoo, there was an increase in the efficiency of the quotations business process by 63% in number of activity and by 50% in number of the actors involved. Odoo customization is done on 26 of the 41 module menus used. Based on UAT results, the implementation of Odoo meets the usability aspect with the overall average value 3.7. This indicates that users have a good level of understanding in the use of Odoo, and the features on Odoo can meet the needs of users.

Keyword: ERP, Odoo, RAD, UAT

1. Introduction

1.1. Background

PT Ecosains Hayati is one of distributor laboratory equipment in Indonesia. The sales/marketing division is the most important part of PT Ecosains Hayati. Every salesman is responsible for purchasing from prospective buyers. Before obtaining a purchase, a salesman must make a quotation by accessing various data such as product price, goods availability data in the warehouse, data sequence number, and product information on the supplier's official website. The number of documents that must be accessed makes the sales work process less efficient. The unintegrated data of the customer makes the sales have their respective customer databases unknown to each other so that there is often overlap of customers who make the same customers can be contacted by different sales.

An information system is a system that records and organizes data to produce useful information to support an organization whether employees, customers, suppliers, or other co-workers [1] Enterprise Resource Planning (ERP) is one concept that can be applied to improve the efficiency of sales work of PT Ecosains Hayati. ERP is a concept to plan and manage enterprise resources, in the form of integrated programming packages and multimodules designed to serve and support various functions within the company, so that work becomes more efficient and can provide better service to consumers [2].



Implementation of ERP system at PT Ecosains Hayati using RAD (Rapid Application Development) method, since it faster than other method. The selected ERP system is Odoo. Odoo is a fully integrated and open source ERP application that contains a variety of business application programs including Sales, Customer Relationship Management (CRM), Project Management, Warehouse Management, Manufacturing, Finance and Accounting, Human Resource, and so on. The use of Odoo can improve the purchasing, inventory, and sale information systems of the Wholesale and Retail Emi Stores [3].

1.2. Project Purposes

Purposes to be achieved in this project are:

- Improve sales business process workflow of PT Ecosains Hayati.
- Implement ERP Sales Management and CRM systems to enable the sales process to be integrated with other sections.
- Adjustment of the Sales Management module features of selected ERP Software.

2. Methods

RAD method is the development of an information system with a relatively short time. Development of a normal information system takes at least 180 days, but with RAD method a system can be completed in just 60-90 days [4]. Figure 1 depicts three phases of RAD [5]. The steps Implementation of Odoo at PT Ecosains Hayati using (RAD) method, presented in Figure 2.

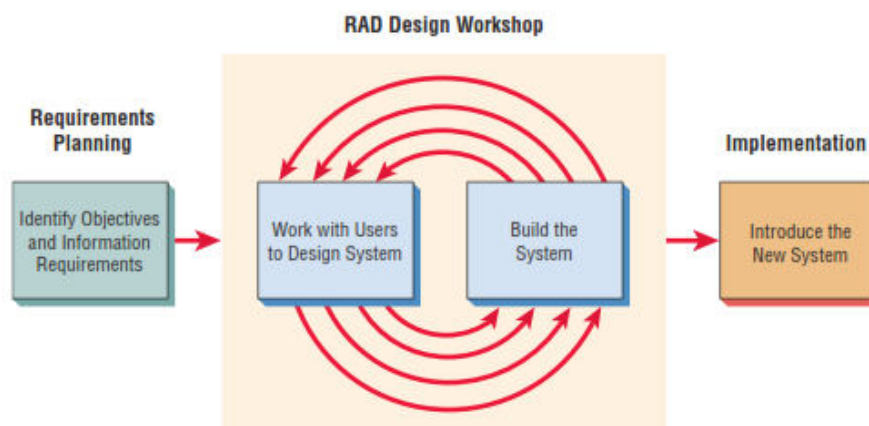


Figure 1. Three phases of RAD

3. Result And Discussion

3.1. Business Process Sales / Marketing Division Using Odoo

Odoo is used to improve the business processes of the actual sales / marketing division to run more efficiently and effectively. Improvements made include:

- Use an ERP system so that data from each division is stored in one system and integrated well. With the data stored in a system is expected to coordinate between divisions can run more efficiently.
- Using the ERP system to create a quotation form. With the ERP system, sales do not need to open various types of documents to complete the data on the offer form (Figure 3). After opening the system, sales can directly enter the data needed to make a quotation from the database provided by the system. Sales also do not need to save the quotation form in the form of Microsoft Excel because the quotation form created automatically stored in the system.

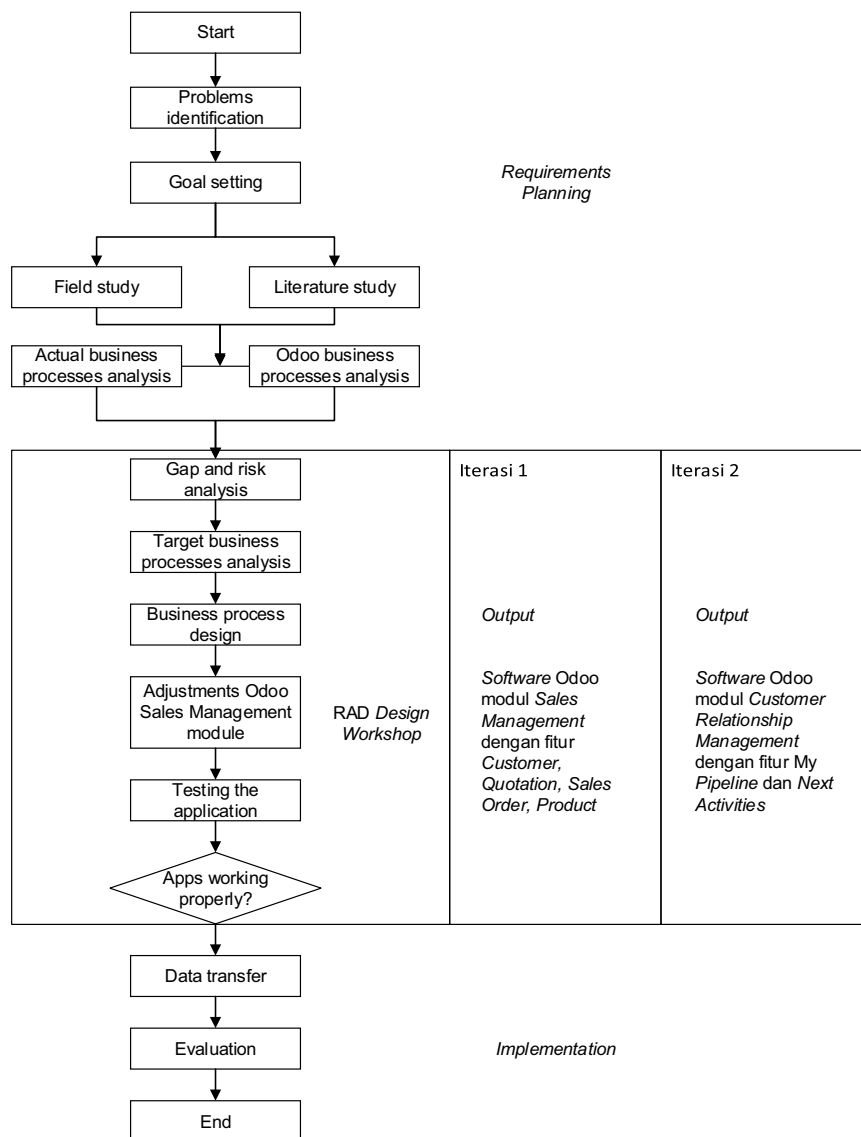


Figure 2. RAD Method

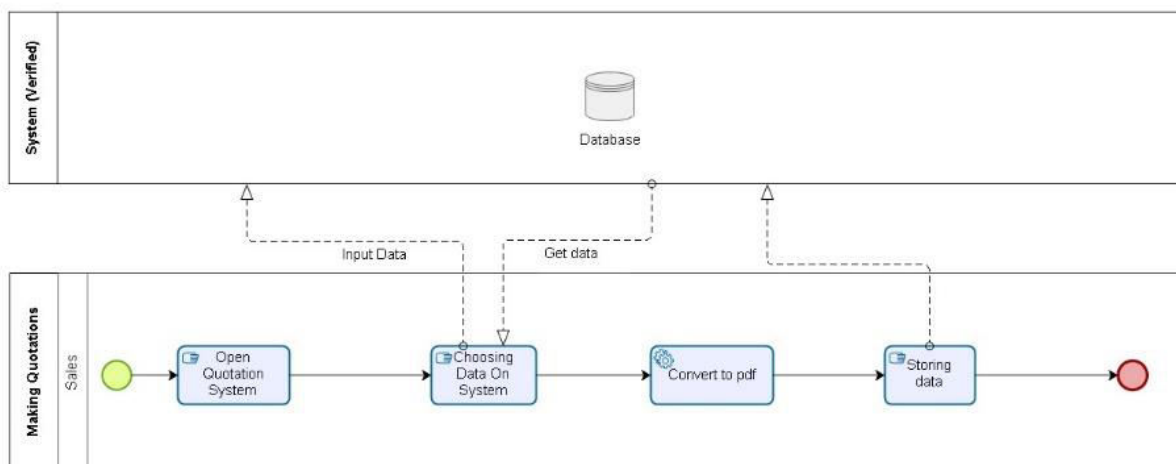


Figure 3. Quotation Making Process using Odoo

3.2. Gap Analysis

The gap analysis is done to find the gap that exists between the current business processes with the existing business processes on the Odoo, as well as adding the needs of the users. Table 1 shows the gap analysis obtained.

Table 1. Gap Analysis

No.	Business Process	Needs	Fullfilment			Existing	Odoo
			N	P	F		
1	The Division Of Sales/ Marketing	System Integration of data that can be monitored in real time by sales / marketing manager		√		Each sales have their own data that can not be monitored by sales / marketing manager	Sales Module can integrate data between sales and can be monitored in real time by sales / marketing manager
2	Make a Quotation	The quotation system with the data already entered into the system database and already through the verification of sales / marketing manager, so in making the quotation no longer open a lot of documents		√		Quotations are made in a Microsoft Excel document with a prepared quotation template. Data entered by copy and paste into available templates.	In the Sales Management module there are quotations feature to make a quotation with data already entered and verified by the previous sales / marketing manager, so in the process of making the data quotation stay selected without having to open many supporting documents again.
3	Make a Report	Reporting system for every sales activity that can be monitored by sales / marketing manager and director of operations in real time, and there is a data analysis that supports for the assessment of sales performance		√		Each salesman writes a report on Google Sheets about week-long activities and plans for the following week	In the CRM module there is My Pipeline feature that will record the sales activity automatically when following the Sales Flow that has been determined. There are 2 Report features, namely Activities Analysis and Pipeline Analysis that can be used to view sales performance, and on the Dashboard CRM sales module can see its own performance

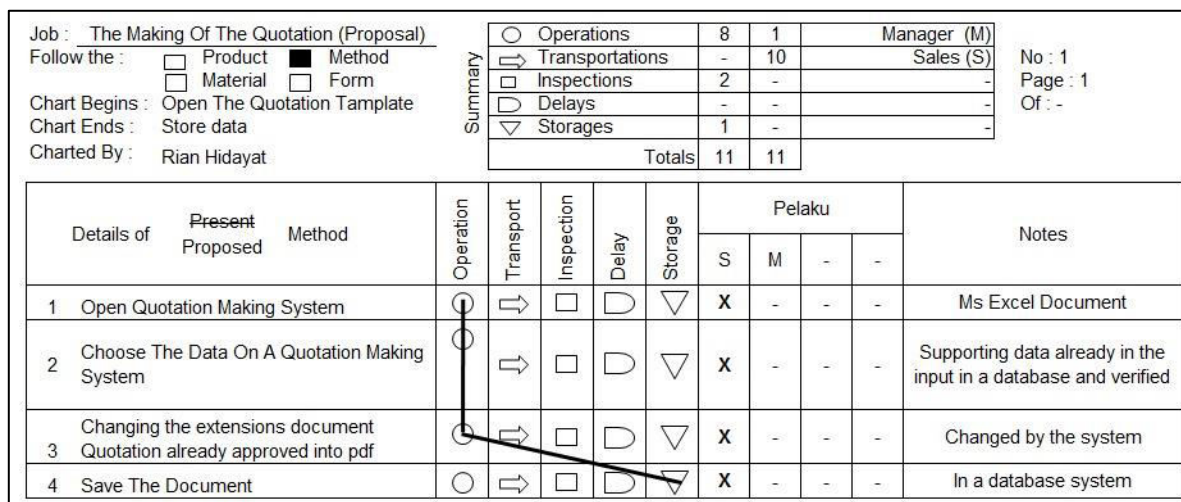
3.3. Analysis of Effectiveness and Efficiency of Bidding Procurement Business Process

The business process of making quotation done now (actual) has been effective but can't be said to be efficient. Sales must open multiple documents to get the data and enter them one by one into the quotation form by copy-paste. The number of documents to be opened makes the quotation process take a long time. The flowchart making of the offering with the Odoo is presented in Table 2. The comparison between the actual quotation-making business process and with the Odoo is presented in Table 3.

$$\text{Increased efficiency} = \frac{\text{Actual amount of activity} - \text{Amount of activity of the ERP system}}{\text{Actual amount of activity}} \times 100\% \quad (1)$$

$$\text{Increased activity efficiency} = \frac{11 - 4}{11} \times 100\% = 63\%$$

$$\text{Increased efficiency of the actor} = \frac{2 - 1}{2} \times 100\% = 50\%$$

Table 2. Flowchart Business Process Making Quotation (Odoo)**Table 3.** Comparison of the Quotation Business Process

	The Business Process of Making the Quotation				Increased efficiency
	Business Process Modelling		Flowchart		
	Actual	Odoo	Actual	Actual	
Number of Activities	11	4	11	4	63%
Number of Actor	2	1	2	1	50%

Based on the comparison of actual business processes and with Odoo it appears that:

- There was a 63% increase in work efficiency by reducing activity from 11 activities to 4 activities.
- There was an increase in the efficiency of the number of actors by 50% by reducing the actor from 2 actors to 1 actor.

3.4. Customize Odoo

The customization of Odoo is done on 26 of the 41 module menus (63%). Customization is done mainly on the quotation view. Figure 4 shows the quotation view after customization. View changes that occur after customization include:

- The quotation number is in accordance with the applicable provisions in PT Ecosains Hayati.
- Appearance of Pricelist, Delivery Method, and the number of discount.
- Enable IDR, EUR, USD.
- Set the Decimal Accuracy to round numbers on offer.
- Add terms and conditions in accordance with the terms.

In addition to the quotation view, customization is also done on the My Pipeline feature by adding a Lead column to detail the sales activity. Step Lead is added by selecting Settings> Activate the developer mode> Sales Module> Configuration> Stages> Create. Settings adjusted to the needs of the company. My Pipeline display after customization is shown in Figures 5.

Quotations / EC-Q1701-035

Customer: PT MULTIKIMIA INTI PELANGI
Kampung Maruk RT 002 RW 002, Ganda Mekar, Cikarang Barat,
Bekasi, Jawa Barat, 17520, Indonesia

Order Date: 01/18/2017 11:45:16
Expiration Date: 02/18/2017
Pricelist: Public Pricelist (IDR)
Payment Terms: 30 Net Days
Delivery Method: Free delivery charges
Rp0 → Set price

Product	Description	Ordered Qty	Analytic Tags	Unit Price	Taxes	Discount (%)	Subtotal

TERMS AND CONDITIONS

PRICES
All prices are quoted in IDR (franco Jakarta).

PAYMENT
100% in advance before delivery; can be negotiated

DELIVERY
Ready stock delivery time is within 1-2 working days and an indent item will be 8 -12 weeks or sooner after purchase order and payment as well as clarification

Untaxed Amount: Rp0
Taxes: Rp0
Total: Rp0

Figure 4. Quotation Form after Customization

Your Pipeline

Create

New + Lead + Qualified + Proposition + Won +

ADD NEW

Figure 5. My Pipeline after Customization

3.5. User Acceptance Test (UAT)

User Acceptance Test (UAT) is done to find out if the user can use the applications and features that are available well, and whether the application can meet the needs of users. UAT respondents are 5 employees of PT Ecosains Hayati, the operational director, sales / marketing manager, and 3 sales people. Test results obtained after performing User Acceptance Test through the filling questionnaire are as follows:

- Users can understand and operate the Odoo properly.
- The menu display and symbols used by Odoo are well understood by the user.
- After customization, the features that Odoo has in accordance with the needs of the sales and able to accelerate the process of making the offer.

The result of a usability value recap shows the overall attribute has an average value of 3.7 so that it can be said that the user understands the Odoo system that has been implemented, and the features available on the Odoo can meet the needs of the user.

Table 4. Recapitulation of Questionnaire Usability Values

No	Questions	Grade	Percentage
Systems Aspect			
1	Is the look of the Odoo app easy to understand?	4.2	84%
2	Is the Odoo app easy to operate?	3.8	76%
User Aspect			
3	Is the in-app menu easy to recognize?	3.8	76%
4	Are image symbols easy to understand?	3.6	72%
Interaction Aspect			
5	Is the lead features appropriate for the application of customer qualification before being converted to Opportunity and forwarded to sales?	3.2	64%
6	Does customer data collection use the Odoo system according to company needs?	4.0	80%
7	Is the customization of sales flow on the existing Odoo system in the My Pipeline feature matching with the company's needs?	4.0	80%
8	Is the use of My Pipeline sales activity can be handled properly?	3.8	76%
9	Is the sales reporting system using My Pipeline easy to use?	3.8	76%
10	Is the Quotation feature integrated with My Pipeline useful?	3.8	76%
11	Are Mark Won, Mark Lost, and Log Activity features useful for sales reporting?	4.2	84%
12	Is the Next Activity feature and Expected Closing integrated with My Pipeline useful?	3.4	68%
13	Are the Customer and Sales Person features integrated with My Pipeline useful?	3.8	76%
14	Is the Management Quotations feature on the Odoo system make it easy for sales?	4.0	80%
15	Is the automatic quotation numbering system in accordance with the company's needs?	4.2	84%
16	Is the look of the Odoo Quotation form easy to understand?	3.2	64%
17	Are automated dating systems, customer data integration, price lists, Payment terms, Delivery methods, products, Term and Condition, and automatic calculations for discounts, VAT and Total make it easy to make Quotation?	3.4	68%
18	Is it faster making a quotation using Odoo than the previous system?	3.6	72%
19	Is the integrated email delivery feature with the Odoo quotations system work properly?	3.0	60%
20	Is the conversion feature (Print) on the Odoo quotation system fit the company's needs?	3.4	68%
21	Is the conversion result fit the company's needs?	3.6	72%
22	Is the Confirm Sale feature change Quotation into Sales Order useful?	3.6	72%
23	Is the Sales Order feature as a Purchase Order (PO) management important?	3.8	76%
24	Is the Product feature on the Sales module, the product data can be recorded well?	3.8	76%
25	Is Odoo system help Sales activities?	4.0	80%
Average		3.7	74%

4. Conclusion

After implementing Odoo on the Sales / Marketing division of PT Ecosains Hayati, it can be concluded that:

- Data storage between divisions can be integrated with the application of Odoo.
- Implementation of Odoo improves the efficiency of the quotation business process in the sales division by 63% in terms of activity, and by 50% in terms of actors involved in the business process.
- Customized Odoo on 26 of the 41 module menus used (63%), so the module meets the needs of the sales division of PT Ecosains Hayati.
- Based on the results of User Acceptance Test (UAT), it appears that the features of Odoo in accordance with the needs of the sales and able to accelerate the process of making the quotation. The overall attribute has an average value of 3.7 so it can be said that the

implementation of ERP Odoo in PT Ecosains Hayati can be well understood by the users and has a usability aspect value.

5. References

- [1] Whitten JL and Bentley LD 2007 *Systems Analysis & Design Methods* (New York: McGraw-Hill Irwin)
- [2] Wijaya F, Santo, Darudiato S 2009 *ERP dan Solusi Bisnis* (Yogyakarta: Graha Ilmu)
- [3] Akbar R, Juliastrioza, Arici YR 2015 Penerapan Enterprise Resource Planning (ERP) untuk Sistem Informasi Pembelian, Persediaan, dan Penjualan Barang pada Toko Emi Grosir dan Eceran. *Teknosi*. 01. 7-17
- [4] Mishra A and Dubey DA 2013 Comparative Study of Different Software Development Life Cycle Models in Different Scenarios, *IJARCSMS*, 1, 64-69
- [5] Kendall and Kendall 2010 *Systems Analysis and Design* (New Jersey) Pearson Education